



Drive Troubleshooting Form

This is only a guide. Please observe all safety pre-cautions and LOTO procedures, look for physical damage as you proceed and stop if it looks or feels unsafe.

Date:

Jobsite:

Job Number:

Contact:

VFD Make:

VFD Model:

VFD S/N:

POWER OFF DIODE CHECK

Power down and wait (15 minutes) for DC Bus to discharge

SET METER TO THE DIODE SYMBOL

METER PROBE - to DC BUS –

METER PROBE + to:

L1=

U=

L2=

V=

L3=

W=

Capacitors should be open allowing a charging effect.

METER PROBE + to DC BUS +

METER PROBE – to:

L1= **U=**

L2= **V=**

L3= **W=**

Capacitors should be open allowing a charging effect.

METER PROBE - to DC BUS +

METER PROBE + to:

L1= **U=**

L2= **V=**

L3= **W=**

Readings should be .3 to .7 volts and match.

METER PROBE + to DC BUS -

METER PROBE - to:

L1= **U=**

L2= **V=**

L3= **W=**

Readings should be .3 to .7 volts and match.

IGBT GATE TEST

With meter set to Ohm measure between the gate leads, there are two pairs for each IGBT. Readings should be between 2k and 8k. Readings should be consistent. This step may be difficult to do without training or detailed guide for your specific drive. You can skip this test for now until after the alarm codes are investigated. These components are related to the power output side of the VFD.

IGBT 1

1st Pair ____

2nd Pair ____

IGBT2

1st Pair ____

2nd Pair ____

IGBT3

1st Pair ____

2nd Pair ____

If any of these tests fail: STOP! The drive needs to either be repaired or replaced. **Do not re-energize** at this point dangerous and new fuses will be blown and perhaps

If these tests pass:

Disconnect the motor cable from the VFD. Make sure the cables ends are not touching anything.

- Safely re-energize the drive.

- Check for any live alarms and investigate.
- Check the alarm log and investigate the alarm code/s

DC BUS VOLTAGE TEST:

After 10-15 minutes of being on, measure DC voltage at DC- and DC+.
It should be at least 1.35 X the AC input voltage.

If this test fails then the VFD is not charging correctly and needs to be replaced or repaired.

- If the keypad display did not come on check for DC power at the drive terminals.

CONTROL CARD Check With Power On :

Measure DC voltage at terminals for 24VDC+ and Common

Measure DC voltage at terminal for 10V+ and Common if available _____

If no power is measured here the control card and power supply are damaged likely from a failed device connected to the control terminals.

If all of the testing has passed up to this point, **SAFELY** attempt to run the motor (in Manual or Hand mode) even though it is disconnected. If it tried to run with no faults describing internal component failure the drive should be okay. The blown fuse/s may have been caused by a incoming power issue. Investigate the motor for internal shorts or shorts to ground as well check if the shaft spins freely.

Tech Name: _____ Company Name: _____

Signature: _____ Date: _____